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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,051	10/25/2000	Kenneth R. Owens	4910.00011	4425

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TELLABS OPERATIONS, INC.
LEGAL DEPARTMENT
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EXAMINER

PHUNKULH, BOB A

ART UNIT PAPER NUMBER

2616

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/696,051

Applicant(s)

OWENS ET AL.

Examiner

Bob A. Phunkulh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is in response to applicant's 07/13/2006 amendment in the application of **Owens et al.** for "**Protection/Restoration of MPLS Networks**" filed 10/25/2000. The amendments/response to the claims have been entered. Claims 1-3, 7-11 have been canceled. Claims 21-29 have been added. Claims 4-6, 12-29 are now pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 24, it is not clear what it meant by "the path that follows the working path mirrors the working path" as cited in the claim. Should it be the protection path mirrors the working path?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Cao et al. (US 6,721,269), hereinafter *Cao*.

Regarding claim 4, *Cao* discloses a multi-protocol label switching (MPLS) system protection switch comprising:

a first data input port into which MPLS data is received from a data source (the data source connected to LSRS not shown in figure 1);

a first data output port from which MPLS data is sent to a second MPLS switching system comprising an MPLS working path (path S-A-B-E, see claim 1 and col. 6 lines 12-23);

a second data output port from which MPLS data is sent to a third MPLS switching system comprising an MPLS protection path (path S-C-D-E, see claim 1 and col. 6 line 12-23);

a second data input port adapted to connect to a path that follows the MPLS working path for receiving failure notifications;

whereby data received at the data input port from the data source can be selectively routed from the second MPLS switching system to the third MPLS switching system by a node at an origin of both the MPLS working path and the MPLS protection path and upstream to the failure (the source and sink routers along the path having both working and protection paths and each router acts as an origin of both the MPLS working and protection path, see figure 1 and col. 3 lines 35-57; and a failure is

propagates to the source and sink routers, where the source node upstream to the failure, see col. 3 lines 23-41).

Regarding claim 5, Cao discloses the MPLS switching system of claim 4 further comprising a control input port whereat protection path failure messages are received from at least one the second MPLS switching system and the third MPLS switching system (see claim 1 and figure 1).

Regarding claim 7, Cao discloses the first switching node is upstream to the failure (LSRS, see figure 1 and col. 10 lines 21-41).

Regarding claim 8, Cao discloses the failure is an upstream failure and is detected by a node upstream to the failure (path S-A-B-E and detected by LSRA, see figure 1 and col. 10 lines 21-41).

Regarding claim 9, Cao disclose the failure is downlink failure and is detected by a node downlink to the failure (path S-A-B-E and detected by LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 10, Cao disclose the failure is a bi-directional failure and is detected by a pair of nodes downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 12, Cao discloses a method for MPLS protection switching from a working path to a protection path comprising:

transmitting a failure notification to a protection switch node along a path that follow the working path (see col. 3 lines 41-57); and

routing data a the protection switch node from the working path to the protection path upon receipt of the failure notification, wherein the protection switch node is at an origin of the working path and the protection path and the protection switch node is upstream to the failure (the source router along the path having both working and protection paths and acts as an origin of both the MPLS working and protection path, see figure 1 and col. 3 lines 35-57; and a failure is propagates to the source and sink routers, where the source node upstream to the failure, see col. 10 lines 23-41).

Regarding claim 13, Cao discloses the failure notification is transmitted in a direction reverse to the working path (see col. 10 lines 21-41).

Regarding claim 14, Cao discloses the path follows the protection path mirrors the working path (see figure 1).

Regarding claim 15, Cao discloses detecting a failure (see col. 3 lines 49-51).

Regarding claim 16, Cao discloses the first switching node is upstream to the failure (LSRS, see figure 1 and col. 10 lines 21-41).

Regarding claim 17, Cao discloses the failure is an upstream failure and is detected by a node upstream to the failure (path S-A-B-E and detected by LSRA, see figure 1 and col. 10 lines 21-41).

Regarding claim 18, Cao disclose the failure is downlink failure and is detected by a node downlink to the failure (path S-A-B-E and detected by LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 19, Cao disclose the failure is a bi-directional failure and is detected by a pair of nodes downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 20, Cao disclose the failure is detected by a pair of nodes downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 6, Cao discloses a multi-protocol label switching (MPLS) system comprised of a first MPLS protection switch having a data input port into which MPLS data is received from a data source;

a second MPLS switching system (either LSRA or LSRB, see figure 1) coupled to the first MPLS protection switch (LSRS, see figure 1) via a first data path carrying MPLS data, the first data path comprising an MPLS working path (path S-A-B-E, see figure 1);

a third MPLS switching system (either LSRC or LSRD, see figure 1) coupled to the first MPLS protection switch (LSRS, see figure 1) via a second data path capable of carrying MPLS data, said second data path comprising an MPLS protection path (path S-C-D-E, see figure 1);

an upstream reverse notification tree (RNT) data path extending at least between the second MPLS switching system to the MPLS protection switch, that upon a failure can carry data by which in response to the failure a switchover from a working path to a protection path can be initiated (when the source and sink routers are alerted to the path failure (the notification to the source node is reverse notification), the sink router switches to the secondary path for communications. The source router may then establish another explicitly routed communications path to act as a new secondary path, see col. 3 lines 53-57).

Regarding claim 21, Cao discloses an apparatus for MPLS protection switching from a working path to a protection path comprising:

a failure notification relay mechanism adapted to transmit a failure notification along at least one segment of a path that follows the working path, upon a failure along the working path (If, for example, the link between LSRA and LSRB of FIG. 1 should fail, receivers at both LSRA and LSRB will detect the broken link. In response to this

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detection, LSRA will generate a "Downstream Lost" status message, and LSRB will generate an "Upstream Lost" status message. In response to receiving such status messages, both LSRA and LSRB will remain in the "established state", release related label resources, and separately propagate Nak messages upstream and downstream, see col. 10 lines 23-41); and

a protection switch adapted to switch traffic from the working path to the protection path upon receiving the failure notification, wherein the protection switch is at an origin of the working and protection paths (at the sink node the traffic are switch from the primary path to the pre-established secondary path, see col. 2 lines 65-67).

Regarding claim 22, Cao discloses a failure detection mechanism adapted to detect the failure and transmit the failure notification along the at least one segment of the path that follows the working path (the LSRA propagate Nak message upstream to the sink node, where the link between the LSRS-LSRA is the at lease one segment of the path that follows the primary path, see col. 10 lines 23-41).

Regarding claim 23, Cao discloses the failure notification relay mechanism is adapted to allow the transmission of the failure notification in a reverse direction of the working path (the LSRA propagate Nak message upstream to the sink node, see col. 10 lines 23-41).

Regarding claim 24, Cao discloses the path that follows the working path mirrors the working path (the primary path S-A-B-E mirrors the secondary path S-C-D-E, see figure 1).

Regarding claim 25, Cao discloses the failure detection mechanism is at a node upstream to the failure (node LSRA is upstream to the failure, see col. 10 lines 28-41).

Regarding claim 26, Cao discloses the failure is an uplink failure and the failure detection mechanism is at a node upstream to the failure (node LSRA is upstream to the failure, see col. 10 lines 28-41).

Regarding claim 27, Cao discloses the failure detection mechanism is at a node downstream to the failure (node LSRB is downstream to the failure, see col. 10 lines 28-41).

Regarding claim 28, Cao discloses the failure is bi-directional failure and the detection mechanism is at a pair of nodes downlink and uplink to the failure (the link between the nodes LSRA and LSRB is bi-directional and the pair nodes detect the link failure, see col. 10 lines 28-41).

Regarding claim 29, Cao *inherently* discloses the failure is a node failure and the failure detection mechanism is at a pair of nodes downlink and uplink to the failure

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(Suppose node LSRA failed, the node LSRB and LSRS will detect the failure due to lost of signal, loss of frame, see col. 10 lines 1-41).

Response to Arguments

Applicant's arguments filed 1/9/2006 have been fully considered but they are not persuasive.

Response to the applicant's argument in page 10, Cao discloses the source router LSRS along the path having both working S-A-B-E and protection paths S-C-D-E and acts as an origin of both the MPLS working and protection path, see figure 1 and col. 3 lines 35-57; and a failure is propagates to the source and sink routers, where the source node upstream to the failure, see col. 10 lines 23-41.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

The following address mail to be delivered by the United States Postal Service (USPS) only:

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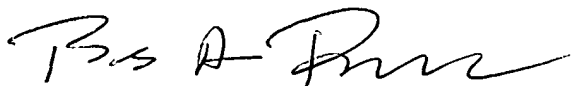
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M.

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to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Wellington Chin**, can be reach on **(571) 272-3134**. The fax phone number for this group is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bob A. Phunkulh

Primary Examiner

TC 2600

Technology Division 2616

September 20, 2006

BOB PHUNKULH
PRIMARY EXAMINER